

ELECTRONIC RESOURCES : COLLECTION DEVELOPMENT

By

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*It took 30 years for Radio to reach 60 million people.
It took 15 years for TV to reach 60 million people.
It took 3 years for Internet to reach 90 million people.
"Never has a technology caught fire so fast"*

ABSTRACT

Electronic resources with the ease to distribute, use, modify, etc. are in the process of transforming traditional library into a digital library in the postmodern era. However, there are various issues related to the acquisition, preservation and access to these electronic resources which are far more critical than the print media. In this paper, attempts have been made to highlight some of these issues.

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0. Introduction

In information technology, virtual working places, multimedia and the Internet have brought radical changes in the Human History. Human History has moved from the stone Age to the Agrarian Age to the Industrial Age and now the Information Age is upon us. The transition from Stone Age to the Agrarian Age to the Industrial Age occurred slowly, unfolding over generations, but, the Information Age has shaken the Society by bringing winds of changes in every walks of life.

1. Developments of a Global Information Infra-structure

A system interconnecting computer networks and various forms of information technology have established a complex relationship amongst information creators, providers and consumers. The impact of this could be seen with the emergence of "electronic resources" warranting paradigm shift - the shift from centralised printing to electronic distribution and local printing.

1.1 Impact of E-Publishing

The transition from printed information to electronic publishing has greater impact in the following functions of a library:

- 1) Select and maintain a common set of knowledge resources for user communities.
- 2) Provide convenient and intelligent access to these resources.
- 3) Maintain access to the archives.

Electronic publishing with advanced communication system have opened up the possibility of instantaneous access and dissemination of information as it is created. Publishers as well as libraries are facing challenging times ahead. Ever since Gutenberg introduced printing, the only mechanism for dissemination of information was in the form of paper publications. Since 1990s rapid integration of information systems such as print and audio-visual, combined with high powered software tools and communication systems are all now part of the new millennium and the traditional libraries of the 1960s and before are transforming to digital libraries, virtual libraries or hybrid libraries.

2. Electronic Resources : Collection Development & Management

Electronic resources are revolutioning academic libraries. Many librarians believe that these resources have changed the principles of selection radically; some believe that they will

virtually eliminate selection. Although, it is true that the art of selection is undergoing profound change, the selection of materials is still crucial for libraries. The four basic criteria for selection - quality, library relevancy, aesthetic and technical aspects, and cost remain the same in the electronic era of information. What they mean and how they are used has changed.

Though the electronic resources offer ease of use, wider access, more rapid updating, cost saving over local maintenance and storage, the librarians are finding it difficult to define issues related to policy of Collection Development and Archiving of Electronic Resources. The electronic resources require continuing management to a far greater degree than print resources

do. Librarians are confronted with the following issues:

- a) budget
- b) quality of the product
- c) technological obsolescence
- d) access (licensing)
- e) copyright
- f) human resources
- g) data migration
- h) ownership
- i) archiving of e-resources

a) Budget:

Acquisition of electronic resources involves allocation for budget not only for the content but also for the access which is technology dependant. Various options of the e-resources are available viz. remote on-line, local (tepeloaded) on-line and CD- ROM options. With ease to update, these resources are updated regularly. In view of the continually shrinking budgets, it is beoming more difficult for librarians to accommodate the licensing/purchasing costs of e-resources. Librarians are faced with challenges in making decision in choosing the most cost-effective electronic format which are updated regularly. All these, involve provision of additional budgetory regularly.

b) Quality of the Product:

Quality, not the specific medium, should be the primary consideration in choosing the product. However, with the newest publishing trend, www has become the principal platform for today's newest publishing initiatives. Researchers and users have come to expect immediate information from a range of electronic resources that offer convenient searching functionality. This has resulted in birth of several journals which appear in the Web before they have been peer reviewed and it is difficult to judge Quality of the product.

c) Technological Obsolescence:

It is a crucial issue for all the librarians. The hardware related concerns include : reliability, upgrade-ability, maintenance, compatibility with peripherals, flecibility for other uses/networking, security from theft and tampering.

Technological obsolescence is the result of the evolution of technology; as newer technology appears, older ones cease to be used. For e.g. CD-ROM workstation, hardware specification and configuration are constantly changing as well as operating systems. The new media for storing digital information rapidly replacing older media and reading devices for these older media become no longer available. Newer versions of software constantly render older versions obsolete and the hardware required for this software also changes overtime. Consequently, information which relies in obsolete technologies become inaccessible.

d) Access (licensing):

Most publishers of information in electronic format will restrict the use of their products through the use of license agreements. These agreements need to be carefully reviewed by library staff before the product is purchased. Frequently, especially with software, the license agreement is written on the product and by breaking the seal, the user agrees to accept the license as stated. This is often referred to as a "shrinkwrap" license. The provisions of

licenses will vary from very restrictive to very liberal. Many of these agreements will go well beyond the scope of the protection provided by the Copyright Act. By accepting the license agreement the user is contractually bound to these restrictions. However, in some circumstances, there are overriding rights to any software agreement in favor of the purchaser. These include the right to make an archival copy, the right of a library to make the software available as part of a public service (this may not be the case in corporate libraries not governed by educational fair use doctrine), and the right to make adaptations in the program in order to run a program. These rights do not apply to all information products in electronic format. CD-ROMs, videodiscs and tapes, video games, and other products frequently can't be copied for archival purposes.

Items Generally Addressed in the License:

- Restrictions on the use of the data in regard to the copying, printing, or downloading from the database.
- Restrictions on the number of simultaneous users, or the use of the product in local (LAN) and wide (WAN) area networks. If a system can accommodate multiple users frequently extra costs are involved.
- Different methods of access, such as dial up access/leased line or dedicated line to Internet.
- Conversion of the database to other media.
- Limits on use to internal/non-commercial activities.
- Limits on the ability to transfer, resell, or reassign the product.
- For software, limiting the program to use on one machine by one user at a time.
- Restrictions that limit access to the subscriber's patrons and staff.
- Requirements that the library guarantee the integrity of circulating copies of full text items.

e) Copyright:

The field of electronic publishing is changing rapidly and the issue of how the current copyright laws impact all aspects of this industry are not absolutely clear. The fair use doctrine

applies to information in electronic format as it applies to printed materials. Fair use allows the downloading or copying of information for educational and research purposes.

Guidelines

for printed materials have been established to define the percentage of a work that may be copied for educational purposes. It is not clear where the line is drawn as to what constitutes

fair use of information in electronic format. For most purposes, libraries already place limits on the use of electronic information that generally fall within fair use guidelines.

Because of high demand, most CD-ROM use and on-line searching is limited to small intervals that do not give the user the opportunity to download amounts of information that become more prevalent this informal control is lost and it may become necessary for libraries in educational settings to clearly display messages in these systems informing users of what constitutes fair use of the information available in the system.

f) Human Resources:

Due to the constant changes caused by the information and communication infrastructures, the postmodern library professionals face distinction between the world of print and postmodern digital world. These distinctions involve resources services, facilities, users and human resources and skills associated with librarianship. Further, the volatile and pervasive nature of technological changes present library professionals with unprecedented challenges. The librarians need to respond to the changes and acquire skills in locating, organising, manipulating, filtering and presenting information. The library staff need to constantly upgrade skills and knowledge, learn about using new technologies and employ new techniques.

g) Data Migration :

Strategies for dealing with technological obsolescence include : migration of digital information to technologies from which they are accessible, the emulation of obsolete systems, and the preservation of obsolete technologies.

While loss of data associated with the deterioration of storage media (CD-ROM, DAT Tapes, etc.) is important, the main issue is that both hardware and software become rapidly obsolete. Data from first Voyager Mission (early 1970s) are now lost because they were stored on electronic media : the Jet Propulsion Lab has the media, but they can no longer read the data. Much of the old NASA data has been lost because it was stored on tape that has deteriorated. Devices and processes used to record, store and retrieve digital information now have a life cycle of between 2-5 years. Far less than some of the most fragile physical materials they are seeking to preserve. The practice known as "refreshing" digital information by copying it onto new media. Not simply copying it, but moving it from one technology to another, whether hardware technologies and software technologies, so that information is useable at a later date, even though, the technology that created the information may have disappeared or be unavailable. However, this is very costly because of the massive task of moving information through the technologies.

h) Ownership:

The library is gradually moving away from the ownership in the electronic era preferring remote access via Internet and www etc. The ownership issue of such products is still more crucial as most of the vendors/publishers do not permit the libraries to archive and do not guarantee maintaining archival copies of such products. Though, some professional societies and publishers take the responsibilities of data archiving, there are no standards addressing preservation of electronic media yet.

i) Archiving of E-Resources:

Paper, for all its drawbacks has one big advantage over electronic media - it can last for thousands of years. Whereas, digital media is fragile and have limited shelf life. In addition, new devices, processes and software are replacing the products and methods used to record, store and retrieve digital information rapidly within 2-5 years. Archivists and Librarians are faced with three technological challenges viz. Medium preservation,

technology preservation and migration of information, which have already been explained.

3. Conclusion

Electronic media speed publication, and they can make distribution of information easy, accessible and often nearly free. However, the electronic media are flawed as archiving devices. Printed books and journals are costly and cumbersome, and they take up space. They are subject to various natural hazards, but have survived for centuries. By contrast, the electronic resources become inaccessible within 2-5 years due to technological obsolescence or the media itself have detracted. With hardcopy archiving, each individual copy is stable, with electronic archiving, each individual copy is unstable. In view of this, libraries canceling print subscription to journals have frequently met resistance from their users and continue to acquire resources both in print as well as in electronic media. Extraordinary efforts are being made by the library professionals throughout the globe to integrate this hybrid and new forms into traditional library systems. It is anticipated that, libraries would continue to acquire greater part of their information resources in the print media for next few years, till access archiving media storing e-resources are stabilized.

4. References

1. Books and Libraries in the New Millennium : A Review Essay - G.B. Angheliescu Hermina and Donald G. Davis Choice, September, p. 87-96, 1999.
2. The Writing is on the Web for Science Journals in Print. Decian Butler; Nature, Vol. 397, January 21, p. 195-2000, 1999.
3. Building Research and Action Agendas for Digital Archiving. Peter Graham, <http://arl.cni.org/arl/proceedings/131/graham.html>
4. Freeware or Vaporware ? - Steven G. Krantz. Notices of the AMS, December, p. 1357, 2000.
5. Preserving Access to Digital Information. <http://www.nla.gov.au/padi/topics/13.html>
6. The Challenge of Archiving Digital Information. <http://www.rlg.org/ArchTF/tfadi.challeng.html>
7. Lest We Forget <http://www.cinemedia.net/FOD/1996/spockley521.html>
8. <http://www.mailbase.ac.uk/lists/lis-bubl-e2/2000-10/0068.html>